

## GFP

Cat.No. 132 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	<b>WB:</b> 1 : 500 up to 1 : 1000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 500 (see remarks) <b>IHC-P:</b> not tested yet <b>EM:</b> yes
Immunogen	Recombinant protein corresponding to AA 1 to 238 from jellyfish GFP (UniProt Id: P42212)
Specificity	Recognizes GFP, mEGFP, superfolder GFP, most common CFP and YFP variants. This antibody still recognizes its antigen after heat mediated antigen retrieval. It does not cross-react to mCherry, mRFP, dsRed, mTagBFP or their most common derivatives.
Remarks	<b>IHC:</b> The unpurified serum tends to stain nuclear structures in WT tissue, that lacks GFP expression. The affinity purified version 132 005 recommended.

**TO BE USED IN VITRO / FOR RESEARCH ONLY**  
**NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS**

## Background

Green fluorescent protein **GFP** and its derivatives have become universal tools in cell biology. These antibodies allow immunoprecipitation and visualization of GFP fusion proteins on immunoblots and by immunocytochemistry.

## Selected References for 132 004

S-SCAM is essential for synapse formation.

Wittenmayer N, Petkova-Tuffy A, Borgmeyer M, Lee C, Becker J, Böning A, Kügler S, Rhee J, Viotti JS, Dresbach T  
Frontiers in cellular neuroscience (2023) 17: 1182493. . **WB; tested species: rat**

An immunoaffinity-based method for isolating ultrapure adult astrocytes based on ATP1B2 targeting by the ACSA-2 antibody.  
Batiuk MY, de Vin F, Duqué SI, Li C, Saito T, Saido T, Fiers M, Belgard TG, Holt MG  
The Journal of biological chemistry (2017) 29221: 8874-8891. . **IHC; tested species: mouse**

Neuronal hyperactivity causes Na<sup>+</sup>/H<sup>+</sup> exchanger-induced extracellular acidification at active synapses.  
Chiacchiaretta M, Latifi S, Bramini M, Fadda M, Fassio A, Benfenati F, Cesca F  
Journal of cell science (2017) 1308: 1435-1449. . **ICC; tested species: mouse**

Postsynaptic gephyrin clustering controls the development of adult-born granule cells in the olfactory bulb.  
Deprez F, Pallotto M, Vogt F, Grabiec M, Virtanen MA, Tyagarajan SK, Panzanelli P, Fritschy JM  
The Journal of comparative neurology (2015) 52313: 1998-2016. . **EM**

Activity in the dorsal hippocampus-mPFC circuit modulates stress-coping strategies during inescapable stress.  
Yoon SH, Song WS, Chung G, Kim SJ, Kim MH  
Experimental & molecular medicine (2024) : . . **IHC; tested species: mouse**

Immune response and pathogen invasion at the choroid plexus in the onset of cerebral toxoplasmosis.  
Figueiredo CA, Steffen J, Morton L, Arumugam S, Liesenfeld O, Deli MA, Kröger A, Schüler T, Dunay IR  
Journal of neuroinflammation (2022) 191: 17. . **IHC; tested species: mouse**

Impaired synaptic transmission in dorsal dentate gyrus increases impulsive alcohol seeking.  
Nalberczak-Skóra M, Beroun A, Skonieczna E, Cały A, Ziółkowska M, Pagano R, Taheri P, Kalita K, Salamian A, Radwanska K  
Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology (2022) : . . **IHC; tested species: mouse**

The Alzheimer susceptibility gene BIN1 induces isoform-dependent neurotoxicity through early endosome defects.  
Lambert E, Saha O, Soares Landeira B, Melo de Farias AR, Hermant X, Carrier A, Pelletier A, Gadaut J, Davoine L, Dupont C, Amouyel P, et al.  
Acta neuropathologica communications (2022) 101: 4. . **IHC; tested species: drosophila**

Optogenetic stimulation of striatal patches modifies habit formation and inhibits dopamine release.  
Nadel JA, Pawelko SS, Scott JR, McLaughlin R, Fox M, Ghanem M, van der Merwe R, Hollon NG, Ramsson ES, Howard CD  
Scientific reports (2021) 111: 19847. . **IHC; tested species: mouse**

Novel 3D analysis using optical tissue clearing documents the evolution of murine rapidly progressive glomerulonephritis.  
Puelles VG, Fleck D, Ortz L, Papadouris S, Strieder T, Böhner AMC, van der Wolde JW, Vogt M, Saritas T, Kuppe C, Fuss A, et al.  
Kidney international (2019) 962: 505-516. . **IHC; tested species: mouse**

## Selected General References

Imaging into the future: visualizing gene expression and protein interactions with fluorescent proteins.  
van Roessel P et al. Nat. Cell Biol. (2002) PubMed:11780139

Illuminating the secretory pathway: when do we need vesicles?  
Stephens DJ et al. J. Cell. Sci. (2001) PubMed:11228150

Watching proteins in the wild: fluorescence methods to study protein dynamics in living cells.  
Chamberlain C et al. Traffic (2000) PubMed:11208065

Access the online factsheet including applicable protocols  
at <https://sysy.com/product/132004> or scan the QR-code.



# FAQ - How should I store my antibody?

## Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

## Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

## Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

## Product Specific Hints for Storage

### Control proteins / peptides

- Store at -20°C to -80°C.

### Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

### Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

# Avoid repeated freeze-thaw cycles for all antibodies!

## FAQ - How should I reconstitute my antibody?

### Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.